SECTION SEVEN

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AVIATION'S FUTURE RESTS HERE, SAYS AUTHORITY

Sir Arthur Whitten Brown, Transocean Flier, Urges Awakening

Lighter Than Air Machine Favored by Man Who Flew Across in Rival Type---Steam Driven Airplane Foreseen, but Vast Strides Must Be Made, He Points Out, Before Heavier Than Air Long Distance Trips Are Possible and Profitable

DESTRUCTION of our navy's British built dirigible, the ZR-2, was considered by many to have set back aviation for years, especially flying across the Atlantic. Because of this THE NEW YORK HERALD presents to its readers to-day several striking interviews from advocates of both the lighter than air and heavier than air schools. A note of optimism as to the future of transocean flying prevails.

In the leading article Sir Arthur Whitten Brown, American by parentage as well as by naturalization, who flew across the Atlantic with Capt. Alcock, says that the world looks to America to accomplish commercial air transportation across the Atlantic. Though himself essentially a heavier than air follower (he is an engineer with the Vickers-Vimy airplane plant), Sir Arthur looks toward the lighter than air machine for this purpose.

Several interesting variations of his views are expressed by the aviation experts on this side, all of whom first read Sir Arthur's interview before passing judgment on the possibilities of the immediate future. Thus the entire article furnishes the last word of the moment on this all absorbing topic.

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New York Herald Bureau,
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"AMERICA must do it—yes, I am afraid America must do it." This from Sir Arthur Whitten Brown, the man who did it first for England. We were talking about the possibilities of an Atlantic air route. He was surprisingly optimistic at a time when the people of the two great nations were most pessimistic and sorrowful in the shadow of a recent failure. He built his optimism on the very type of aircraft that had so disastrously failed. He had great faith in the practicability of the airship, and said that an oceanic service with ships the size of the ZR-2 would be a profitable business venture. But he put the job up to America.

"The spirit for such an enterprise is gone here," he said. "We have lost our best men, and if we had them we couldn't get the capital. What faith there remained in the airship went down with the ZR-2 except for a few of us. And somehow there isn't the enthusiasm here. For weeks the Air Ministry has been trying to turn over free to any British company its airships and stations and operating equipment, but they are not even wanted as a gift.

"In America you have the knack of mustering enthusiasm for a new venture like this. You are ready and willing to spend the money and experiment on a new idea just on the chance that it will prove a good idea. If America will only go into this thing prepared to spend money and do the job right she will succeed. It could be done now. Capital, research and faith are needed—above all, faith."

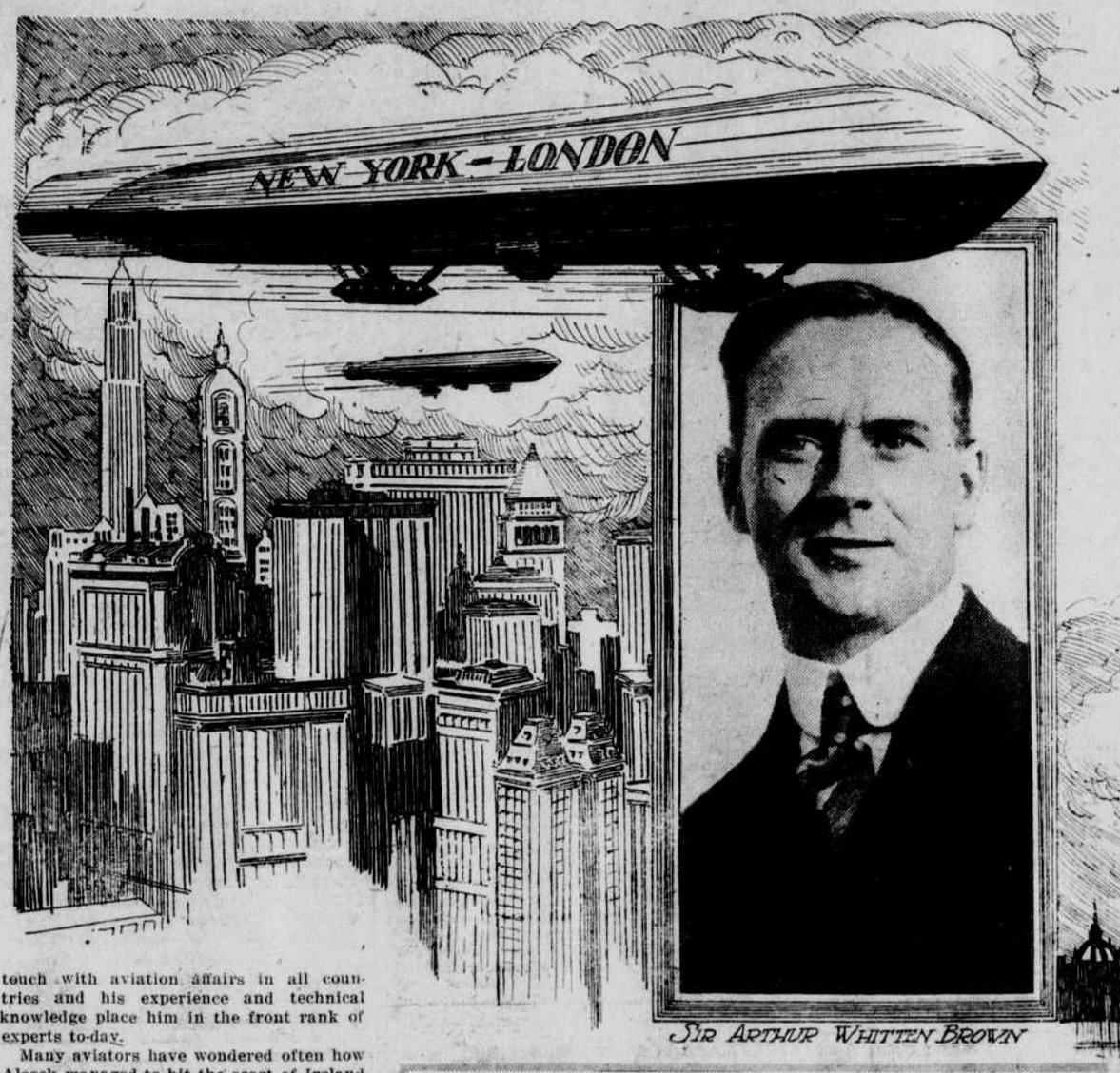
Heavier Than Air Man, But Expert in All Lines

Sir Arthur is essentially a heavier than air man, but an expert in all branches of the flying business. Like Gen. Maitland, Sir Arthur sees that the airship has its function quite apart and beyond the airplane. Although the only surviving man who ever flew across the Atlantic without stop in a heavier than air machine, he refused to consider the present day airplane for transoceanic work.

"Vast strides in development are absolutely necessary before the airplane can seriously be considered for Atlantic flying," he said. "These improvements are not in sight. The airplane can do it now, but it can accomplish nothing. It can carry no useful load. All its lifting capacity is taken up by fuel. The time for aerial stunts is gone. We want an air service from London to New York, reliable and profitable, that will accommodate passengers and mail. The airship can do it."

Sir Arthur has regained much of that old vigor and keenness that characterized him when he was at Newfoundland getting ready to take off with Capt. Alcock in June, 1919. He has been seriously ill for months, but has fully recovered from an operation. During the last two years he has done very little flying, "nothing but joy rides," and he does not contemplate any "serious flying" in the near future.

"If the occasion arises I shall certainly fly again," he said, "but I want to have something worth while to accomplish." In the meantime he is keeping in close touch with aviation affairs in all countries and his experience and technical knowledge place him in the front rank of experts to-day.



SIR ARTHUR WHITTEN BROWN

The Vickers-Vimy airplane in which Capt. Alcock and Lieut. Brown flew from Newfoundland to Ireland in "one hop."

Many aviators have wondered often how Alcock managed to hit the coast of Ireland so directly when they think what he was up against in his historic flight, but an hour's chat with his observer on that flight makes it easier to understand. Sir Arthur is that sort of man. He speaks in his subdued manner of everything pertaining to flying except his Atlantic "hop." That is in the past, while he is looking into the future. What few of his admirers know, he is himself an expert pilot with a fine war record. And as a pilot he was humanly of the trade when he mentioned observing.

"I confess I don't like to ride unless I am piloting," he said with a laugh. "The other fellow always does everything wrong; he either goes too high or too low, or drags a wing, or labors his engine, or something."

And every pilot feels exactly that way about it. But it was apparent that if he had another big job to do he would want to be at the helm. I asked him if he would care to do again what he had done, and he said, simply: "The situation cannot arise again; we accomplished what we set out to do."

Sir Arthur carefully pointed out the shortcomings of the airplane. There were two important considerations—reliability and power. He said the plane of to-day was not reasonably qualified for oceanic flying, because it could not carry the fuel and have room for anything else, and because gasolene engines were not dependable. In discussing what was to be done for reliability he immediately mentioned steam.

Sir Arthur thought that a steam driven airplane would be more reliable. This is no individual dream, for the British Air Ministry is now experimenting with airplane steam engines, and the developments are by no means discouraging.

"Let us take, for example, the Liberty motor and the Rolls-Royce," he said. "They fire on every fourth revolution. The steam engine will fire on every revolution, for, as in a locomotive, steam will act on the piston both ways. That, in the beginning, makes four times the power. With steam we would have no ignition. We would not have the delicate carburetion that we have in a gasolene engine.

"These are important points, because it has been proved that considerably over 90 per cent. of airplane engine failures are due to ignition and carburetion. With these removed we would have a tremendous advantage. Of course there would be increased weight, because of the necessary boilers, but this increase would at the worst no more than equalize the additional efficiency. And we would still have the advantage of a more reliable engine.

"It has been estimated that crude oil can do about as much work in the steam engine as gasolene in the present airplane engine. So we would neither gain nor lose anything in the matter of fuel. But if we could perfect the steam engine for aviation we would accomplish a great deal in reliability and make flying infinitely safer. I surely believe there is a big future for steam in the air.

"But the steam engine in itself cannot solve the problem of Atlantic flying for the airplane. There again we have the question of fuel. By the time we took on enough to travel that distance the lifting capacity of the plane would be taxed to its utmost, and although the flight might be safer it would in the end accomplish nothing. We must learn a great deal besides that before the thing can be done properly."

Sir Arthur felt that if planes were built much larger than at present they would have to be seaplanes, for otherwise they could not be landed with any degree of safety. He did not fancy the type of the NC-4 for Atlantic flying, because he felt the trip must be made without stop if anything was to be gained in time. He said the Amphibian, such as is now built by the Vickers Company, also could not be considered for this work because of the extra weight of the boat.

The large plane had a future, Sir Arthur said, but he advocated the cantilever wing—the design used on the Fokker. The cantilever wing cuts down landing speed and increases climbing efficiency. The Handley Page company has long been experimenting with the old Phillips wing, an adjustable entering edge to give the same effect as the cantilever, but so far they have done very little with it. But Sir Arthur felt that all these experiments had not gone far enough to make the airplane feasible for transatlantic work.

"For the present the only thing is the airship," he said emphatically. "If we had enough money to experiment as we would like to we could do everything in aviation, but so far we do not know enough. The achievement of the future awaits the country that can afford to spend a great deal for experiment and research. It should be a tremendous inspiration for any country. For most countries it is out of the question now, but for the United States it is not. With American capital, American resources and, most important, American enthusiasm, aviation can continue to progress with the speed it has known since its inception."

Sir Arthur had never seen the ZR-2, and he refused to comment on the disaster that overcame it. But he said that even greater than that tragedy would be the tragedy of America discarding the airship idea because the ZR-2 had failed.

"By all means complete the ZR-1 and build more," he said. "The lesson of the ZR-2 will not be lost, must not be lost. The business will receive a deplorable setback unless America carries on. She already has a good foundation, and she has helium gas. She can succeed. I sincerely hope she will try."

Sir Arthur knows America well—"not so well as I would like to, though"—and he appreciates fully the possibilities of a New York to San Francisco airship service.

"Across your continent, better than trains; across the Atlantic, better than boats. And a great saving in time," he said.

No Desire to Fly the Pacific Under Present Day Conditions

He also knows the problem of the Pacific, but this is a subject that good Englishmen do not go into. But when I asked him if he would want to try to fly across the Pacific as he flew across the Atlantic he said "No—not until you move Honolulu closer to the Golden Gate." But he insisted that the airship could cross the Pacific comfortably and safely.

In speaking of airship design he said "The bigger the better." He thought that an airship could not be too big, and said that whatever happened to the ZR-2 it was not because it was too big; possibly because it was too big for its structure but not too big for an airship.

"The bigger the airship the stronger can be its frame," he said. "If we build them big enough to carry steel girders they will not buckle. The principle is the same as employed in the construction of a steamboat. A high sea does not try a vessel so much as a choppy sea. A high wind does not wrench an airship like wind eddies. Build a ship to buffet these cross currents. We have had a lesson, and because we failed it does not follow that we will fail again."

To institute an Atlantic airship route Sir Arthur suggested a fleet of three ships like the R-34 or the ZR-2, carrying helium gas and tying to mooring masts. He figured one to leave each side every week and one in reserve. Allowing a passenger capacity of fifty, as planned for the R-37, if it could be completed, and some hundreds of pounds in mail, he said the service would be profitable. He estimated at the outside forty-eight hours each way, and pointed out that a business man could leave New York on Monday, transact his business in London, and be back home on Saturday night. Many busy men would be willing to pay most anything for a service like that, he said.

"By all means we must not be discouraged," said Sir Arthur. "Now is the time to have faith in the airship. We have the men, for it is not the part of stout hearted men to allow one setback to demoralize the game. Many good men have given their lives for this thing. We cannot quit now."

Sir Arthur Whitten Brown, Born of Brooklyn Family

LIEUT. SIR ARTHUR WHITTEN BROWN, navigator of the Vickers-Vimy transatlantic flight plane, is an American, born in Glasgow, Scotland, in 1883, while his parents, both Americans, were living there. His father was an engineer with the British Westinghouse Company. He was reared in Scotland and England, but when he had reached 21 he came to this country and took out citizenship papers. The family is of old Brooklyn stock and two generations of it lived in the same house on Rogers avenue.

The daring aviator weighs only 140 pounds and is only 5 feet 7 inches in height. He is a professional engineer, and is now associated with Vickers, Limited. He studied aerial navigation as applied to surveying and later turned to problems of aerial navigation. In 1914 he enlisted in the University and Public School Corps and later was transferred to the Manchester Regiment, Second Battalion, with which he crossed to France and served in the trenches. After a few months he received a commission.

Lieut. Brown's knowledge of electrical engineering brought him a commission in the Royal Flying Corps for observation work. While on a long reconnaissance with Lieut. Medlicott they were forced to land because their carburetor froze. This was in November, 1915. Brown was shot through the left foot and both were captured. They were taken to a hospital at Aachen Burtscheid, but Medlicott in trying to escape was killed.

In December, 1916, Brown was repatriated and reached England June, 1917, when he took up aero engine work with the Ministry of Munitions.

Aviation Experts Here Optimistic About Future

IF England is discouraged over the disastrous failure of the ZR-2 and has lost her enthusiasm for the development of a transatlantic air route, America is in no way a party to the general despondency.

"We'll forget the ZR-2, or at least try to," said Augustus S. Post, secretary of the Aero Club of America. "That's merely an incident, a regrettable one, in the line of advance. It should not retard progress in aeronautical development. Rather it should stimulate research and advancement. Germany lost fifty lives in a single accident developing the airship. But they went on, as we shall do.

Necessary to Show Airplanes Service to Commerce

"At this stage of aeronautical transportation we cannot overlook the importance of demonstrating what has already been thoroughly proved to the general public and the world, the service which aeronautics is capable of rendering to commerce.

"The airplane is just as good a servant as it was a warrior. It is just as good a porter as it was a policeman.

"The marvellous and astounding success of the airplane as a military weapon which, as Marshal Foch said, bids fair to supersede every other weapon of war, will be repeated in peace times. The airplane is sure to excel every other means of transportation as far as speed, cheapness of cost and safety go."

Secretary Post was willing to go on record concerning the "safety" clause in his contract and had the figures to prove it. He said that statistics show there is one fatal accident for every 464,000 miles flown. At the same time, in New York State alone, one person is killed every ten hours in a traffic accident and one person is injured every twenty-two minutes. Compared with these latter figures, Mr. Post felt that it was almost safer to "go by air."

Also, he referred to the summary of official statistics of the operation of air lines between London and the Continent from January 1, 1921, to August 6, 1921. The table follows:

Number of miles	440,000
Number of journeys	2,022
Number of passengers	6,706
Number of mail journeys	1,137
Percentage of completed trips	91½%

Total cost, 25 cents per mile for five passengers.

What Says Wells. Eternal Prophet of the Ages

Mr. Post said that he asked for no better corroboration of his own views than those given by H. G. Wells, the eternal prophet of the ages. After serving as a member of the British Civil Air Transport Commission Mr Wells declared:

"In the near future the air may be the chief if not the only highway for long distance mails, for long distance passenger traffic and for the carriage of most valuable and compact commodities. The ocean ways are likely to be ways only for slow travel and for staple and bulky trade."

The development of the commercial airplanes in America is proceeding without many hitches. Last year it was estimated that 15,000,000 miles were flown, a grand total of 225,000 passengers being carried. There were in actual operation 1,200 commercial aircraft.

To stimulate the creation of a more efficient airplane for general purposes John M. Larsen has presented a new airplane trophy, which will be competed for at the First International Aero Congress at Omaha early in November. The contest will follow the Pulitzer trophy race.

According to Mr. Larsen's wishes, the trophy will be awarded to the plane that "can carry the most load the greatest distance in the shortest time and for the least money." Mr. Larsen believes that the contest will demonstrate to the public that there are planes that can carry freight and passengers as cheaply as some other modes of transportation. Once this fact is established, he feels that "the Government will take care of the essentials, such as landing fields and organized highways, permitting regular lines to establish operations.

The trophy, designed by Gutzon Borglum, stands 4 feet 6 inches high, on a globe

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